CLAIMS

1. (currently amended) In a spread-spectrum receiver, a method for processing a received analog spread-spectrum signal, comprising:

determining whether to attenuate the received analog spread-spectrum signal;

based on the attenuation determination, selectively attenuating the received analog spread-spectrum signal to generate a selectively attenuated analog spread-spectrum signal;

digitizing the selectively attenuated analog spread-spectrum signal to generate a digital spread-spectrum signal;

filtering the digital spread-spectrum signal in an attempt to compensate for interference in the received analog spread-spectrum signal to generate a filtered digital spread-spectrum signal; and

de-spreading the filtered digital spread-spectrum signal to generate a de-spread digital signal, wherein:

the attenuation determination is based on the amplitude of the digital spread-spectrum signal only after the digitizing and prior to the interference-compensation filtering and the de-spreading.

2. (original) The invention of claim 1, wherein the filtering attempts to compensate for off-channel interference in the received analog spread-spectrum signal.

3. (original) The invention of claim 1, wherein the selectively attenuated analog spread-spectrum signal has a negative signal-to-noise ratio (SNR).

4. (original) The invention of claim 1, wherein:

the received analog spread-spectrum signal is attenuated when the amplitude of the digital spread-spectrum signal is greater than an upper threshold; and

the received analog spread-spectrum signal is not attenuated when the amplitude of the digital spread-spectrum signal is less than a lower threshold, wherein the upper threshold is greater than the lower threshold.

5. (original) The invention of claim 4, wherein the upper threshold is greater than the lower threshold by an amount greater than the level of selective attenuation in order to provide hysteresis in the attenuation determination.

6. (original) The invention of claim 1, wherein:

the received analog spread-spectrum signal is a radio frequency (RF) signal; and

further comprising:

converting the RF signal to an intermediate frequency (IF) prior to the digitization; and

converting the IF signal to baseband after digitization.

7. (original) The invention of claim 6, wherein the filtering and the de-spreading are implemented at baseband.

8. (original) The invention of claim 1, wherein:

the filtering attempts to compensate for off-channel interference in the received analog spread-spectrum signal;

the selectively attenuated analog spread-spectrum signal has a negative signal-to-noise ratio (SNR);

the received analog spread-spectrum signal is attenuated when the amplitude of the digital spread-spectrum signal is greater than an upper threshold;

the received analog spread-spectrum signal is not attenuated when the amplitude of the digital spread-spectrum signal is less than a lower threshold;

the upper threshold is greater than the lower threshold by an amount greater than the level of selective attenuation in order to provide hysteresis in the attenuation determination;

the received analog spread-spectrum signal is a radio frequency (RF) signal;

further comprising:

converting the RF signal to an intermediate frequency (IF) prior to the digitization; and

converting the IF signal to baseband after digitization; and

the filtering and the de-spreading are implemented at baseband.

9. (currently amended) A spread-spectrum receiver, comprising:

a variable attenuator adapted to selectively attenuate a received analog spread-spectrum signal to generate a selectively attenuated analog spread-spectrum signal;

an analog-to-digital converter (ADC) adapted to digitize the selectively attenuated analog spread-spectrum signal to generate a digital spread-spectrum signal;

an interference-compensation filter adapted to filter the digital spread-spectrum signal in an attempt to compensate for interference in the received analog spread-spectrum signal to generate a filtered digital spread-spectrum signal;

a digital processor adapted to de-spread the filtered digital spread-spectrum signal to generate a de-spread digital signal; and

a controller adapted to control the variable attenuator based on the amplitude of the digital spread-spectrum signal only after the digitizing by the ADC and prior to the interference-compensation filtering by the interference-compensation filter and the de-spreading of the digital processor.

10. (original) The invention of claim 9, wherein the filter is adapted to attempt to compensate for off-channel interference in the received analog spread-spectrum signal.

11. (canceled)

12. (original) The invention of claim 9, wherein:

the controller is adapted to control the variable attenuator to attenuate the received analog spread-spectrum signal when the amplitude of the digital spread-spectrum signal is greater than an upper threshold; and

the controller is adapted to control the variable attenuator not to attenuate the received analog spread-spectrum signal when the amplitude of the digital spread-spectrum signal is less than a lower threshold, wherein the upper threshold is greater than the lower threshold.

13. (original) The invention of claim 12, wherein the upper threshold is greater than the lower threshold by an amount greater than the level of selective attenuation in order to provide hysteresis in the attenuation determination.

14. (original) The invention of claim 9, wherein:

the received analog spread-spectrum signal is a radio frequency (RF) signal; and

further comprising:

a mixer adapted to convert the RF signal to an intermediate frequency (IF) prior to the digitization; and

a digital downconverter adapted to convert the IF signal to baseband after digitization.

15. (original) The invention of claim 14, wherein the filter and the digital processor are adapted to operate at baseband.

16. (previously presented) The invention of claim 9, wherein:

the filter is adapted to attempt to compensate for off-channel interference in the received analog spread-spectrum signal;

the controller is adapted to control the variable attenuator to attenuate the received analog spread-spectrum signal when the amplitude of the digital spread-spectrum signal is greater than an upper threshold;

the controller is adapted to control the variable attenuator not to attenuate the received analog spread-spectrum signal when the amplitude of the digital spread-spectrum signal is less than a lower threshold;

the upper threshold is greater than the lower threshold by an amount greater than the level of selective attenuation in order to provide hysteresis in the attenuation determination;

the received analog spread-spectrum signal is a radio frequency (RF) signal;

further comprising:

a mixer adapted to convert the RF signal to an intermediate frequency (IF) prior to the digitization; and

a digital downconverter adapted to convert the IF signal to baseband after digitization; and

the filter and the digital processor are adapted to operate at baseband.

17. (canceled)

18. (previously presented) The invention of claim 1, wherein the attenuation determination is based on the amplitude of the digital spread-spectrum signal in a time domain.

19. (previously presented) The invention of claim 6, wherein the attenuation determination is based on the amplitude of the digital IF signal.

20. (previously presented) The invention of claim 1, wherein:

the received analog spread-spectrum signal is attenuated when the amplitude of the digital spread-spectrum signal is greater than a first threshold;

the received analog spread-spectrum signal is not attenuated when the amplitude of the digital spread-spectrum signal is less than a second threshold, wherein the first threshold is greater than or equal to the second threshold;

a transition from the received analog spread-spectrum signal not being attenuated to the received analog spread-spectrum signal being attenuated occurs after (i) determining a first duration that the amplitude of the digital spread-spectrum signal is greater than the first threshold and (ii) comparing the first duration to a first specified amount of time to determine that the first duration is greater than the first specified amount of time; and

a transition from the received analog spread-spectrum signal being attenuated to the received analog spread-spectrum signal not being attenuated occurs after (i) determining a second duration that the amplitude of the digital spread-spectrum signal is less than the second threshold and (ii) comparing the second duration to a second specified amount of time to determine that the second duration is greater than the second specified amount of time.

21. (previously presented) The invention of claim 1, wherein the attenuation determination is further based on *a priori* knowledge of maximum expected interference-to-carrier ratio.

22-23. (canceled)

24. (previously presented) The invention of claim 1, wherein the attenuation determination is independent of any determination of bit error rate.

25. (canceled)

26. (previously presented) The invention of claim 9, wherein the selectively attenuated analog spread-spectrum signal has a negative signal-to-noise ratio (SNR).

27. (canceled)

28. (new) In a spread-spectrum receiver, a method for processing a received analog spread-spectrum signal, comprising:

determining whether to attenuate the received analog spread-spectrum signal;

based on the attenuation determination, selectively attenuating the received analog spread-spectrum signal to generate a selectively attenuated analog spread-spectrum signal;

digitizing the selectively attenuated analog spread-spectrum signal to generate a digital spread-spectrum signal;

filtering the digital spread-spectrum signal in an attempt to compensate for interference in the received analog spread-spectrum signal to generate a filtered digital spread-spectrum signal; and

de-spreading the filtered digital spread-spectrum signal to generate a de-spread digital signal, wherein:

the attenuation determination is based on the amplitude of the digital spread-spectrum signal prior to the interference-compensation filtering and the de-spreading;

the filtering attempts to compensate for off-channel interference in the received analog spread-spectrum signal;

the selectively attenuated analog spread-spectrum signal has a negative signal-to-noise ratio (SNR);

the received analog spread-spectrum signal is attenuated when the amplitude of the digital spread-spectrum signal is greater than an upper threshold;

the received analog spread-spectrum signal is not attenuated when the amplitude of the digital spread-spectrum signal is less than a lower threshold;

the upper threshold is greater than the lower threshold by an amount greater than the level of selective attenuation in order to provide hysteresis in the attenuation determination;

the received analog spread-spectrum signal is a radio frequency (RF) signal;

further comprising:

converting the RF signal to an intermediate frequency (IF) prior to the digitization; and

converting the IF signal to baseband after digitization; and

the filtering and the de-spreading are implemented at baseband.

29. (new) In a spread-spectrum receiver, a method for processing a received analog spread-spectrum signal, comprising:

determining whether to attenuate the received analog spread-spectrum signal;

based on the attenuation determination, selectively attenuating the received analog spread-spectrum signal to generate a selectively attenuated analog spread-spectrum signal;

digitizing the selectively attenuated analog spread-spectrum signal to generate a digital spread-spectrum signal;

filtering the digital spread-spectrum signal in an attempt to compensate for interference in the received analog spread-spectrum signal to generate a filtered digital spread-spectrum signal; and

de-spreading the filtered digital spread-spectrum signal to generate a de-spread digital signal, wherein:

the attenuation determination is based on the amplitude of the digital spread-spectrum signal prior to the interference-compensation filtering and the de-spreading;

the received analog spread-spectrum signal is attenuated when the amplitude of the digital spread-spectrum signal is greater than a first threshold;

the received analog spread-spectrum signal is not attenuated when the amplitude of the digital spread-spectrum signal is less than a second threshold, wherein the first threshold is greater than or equal to the second threshold;

a transition from the received analog spread-spectrum signal not being attenuated to the received analog spread-spectrum signal being attenuated occurs after (i) determining a first duration that the amplitude of the digital spread-spectrum signal is greater than the first threshold and (ii) comparing the first duration to a first specified amount of time to determine that the first duration is greater than the first specified amount of time; and

a transition from the received analog spread-spectrum signal being attenuated to the received analog spread-spectrum signal not being attenuated occurs after (i) determining a second duration that the amplitude of the digital spread-spectrum signal is less than the second threshold and (ii) comparing the second duration to a second specified amount of time to determine that the second duration is greater than the second specified amount of time.

30. (new) A spread-spectrum receiver, comprising:

a variable attenuator adapted to selectively attenuate a received analog spread-spectrum signal to generate a selectively attenuated analog spread-spectrum signal;

an analog-to-digital converter (ADC) adapted to digitize the selectively attenuated analog spread-spectrum signal to generate a digital spread-spectrum signal;

an interference-compensation filter adapted to filter the digital spread-spectrum signal in an attempt to compensate for interference in the received analog spread-spectrum signal to generate a filtered digital spread-spectrum signal;

a digital processor adapted to de-spread the filtered digital spread-spectrum signal to generate a de-spread digital signal; and

a controller adapted to control the variable attenuator based on the amplitude of the digital spread-spectrum signal prior to the interference-compensation filter and the digital processor, wherein:

the filter is adapted to attempt to compensate for off-channel interference in the received analog spread-spectrum signal;

the controller is adapted to control the variable attenuator to attenuate the received analog spread-spectrum signal when the amplitude of the digital spread-spectrum signal is greater than an upper threshold;

the controller is adapted to control the variable attenuator not to attenuate the received analog spread-spectrum signal when the amplitude of the digital spread-spectrum signal is less than a lower threshold;

the upper threshold is greater than the lower threshold by an amount greater than the level of selective attenuation in order to provide hysteresis in the attenuation determination;

the received analog spread-spectrum signal is a radio frequency (RF) signal;

further comprising:

a mixer adapted to convert the RF signal to an intermediate frequency (IF) prior to the digitization; and

a digital downconverter adapted to convert the IF signal to baseband after digitization; and

the filter and the digital processor are adapted to operate at baseband.